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## ABSTRACT

A device for counting and measuring particles provides an analysis of the particle characteristics without the use of light scattering collection principles and includes a processing system 27, comprising a control subsystem 13, an analog-digital subsystem 14 and a light detecting system 11, providing particle direct detection. An improved device analyzes the different light beam intensity durations, created by an obstruction of a light beam by the intersecting particles. This intersection is occurred inside the light detecting system 11 in the area of a light detection means 4, placed on the light beam axis 2. The particle counting and measuring is provided by the timing processing of the different duration digital pulses converted from the appropriate amplified detected signals. The different durations of the detected signals and appropriate digital form pulses are a result of the intersection of the light beam by the different size particles and the timing processing is realized by the strobing of the appropriate digital form pulses, thereby creating the strobe pulse packages, having a different quantity of the strobe pulses, characterizing the particle size, and the quantity of the identical strobe pulse packages characterizes the quantity of the particles with an appropriate identical size.